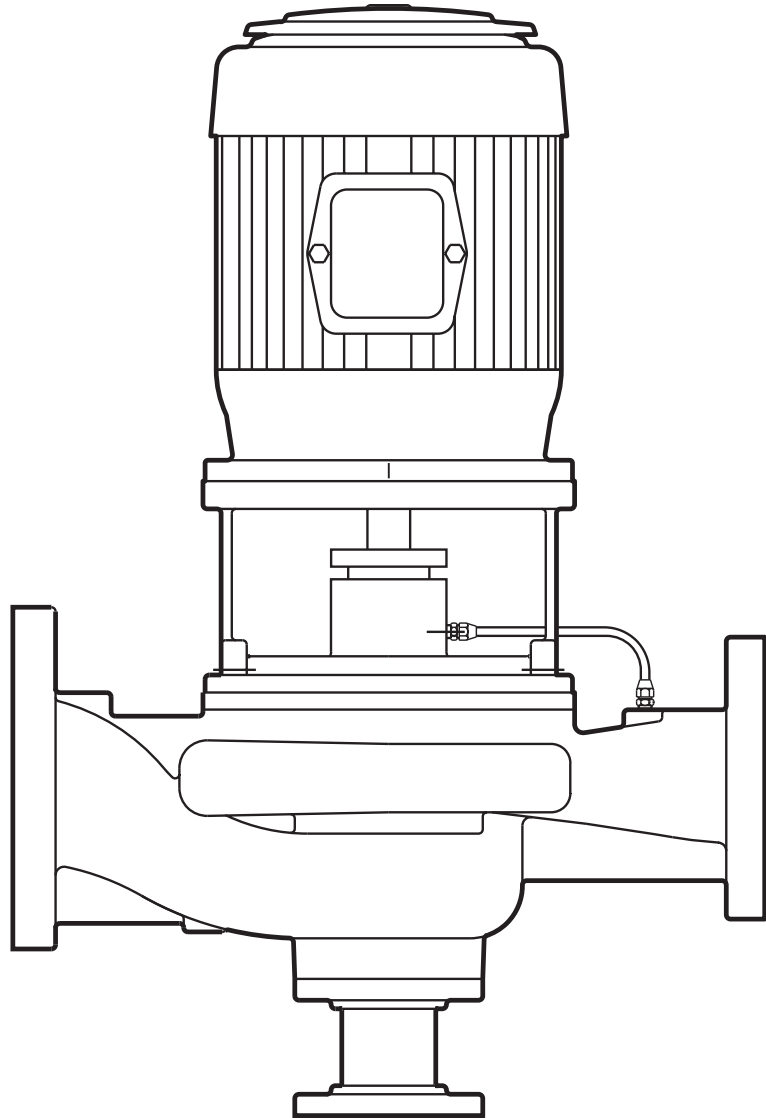




**AURORA<sup>®</sup>**



# MODEL 383

## **SINGLE STAGE INLINE FIRE PUMP**

### **INSTALLATION AND OPERATION MANUAL**

NOTE! To the installer: Please make sure you provide this manual to the owner of the equipment or to the responsible party who maintains the system.

**ATTENTION: SAFETY WARNINGS:**

Model 383 pumps are furnished with packing and lantern ring when suction pressure is 30 PSIG or less and packing only when suction pressure is greater than 30 PSIG.

**LOCATION:**

The pump should be installed in a clean, heated and well ventilated area that allows access for inspection, cleaning and proper maintenance. Sufficient space should be provided for installation and removal.

**MOUNTING:**

Model 383 pumps have been designed with an assembled column base to support the pump and motor. The column base may be floor mounted or mounted to another base.


**PIPING:**

Suction and discharge piping must not be smaller than the inlet and outlet piping sizes of the pump. Piping connections must be tight, particularly the suction, as air leakage can cause reduced capacity or loss of prime. Isolation valves should be provided in suction and discharge lines.


**CAUTION**

Check the pump for pipe strain. Forcing the pipe to align with the pump flanges or inadequate support of suction and discharge piping can result in binding of the rotating element. Failure to conform to these precautions can result in malfunction or damage to the pump and motor.


**ELECTRICAL SAFETY:**

 **Warning:** Electrical Shock Hazard

All electrical connections are to be made by a qualified electrician in accordance with all codes and ordinances. Failure to follow these instructions could result in serious personal injury, death or property damage.


 **Warning:** Electrical Overload Hazard

Ensure all motors have properly sized overload protection. Failure to follow these instructions could result in serious personal injury, death or property damage.

 **Warning:** Sudden Start-Up Hazard

Disconnect and lockout power source before servicing. Failure to follow these instructions could result in serious personal injury, death or property damage.

**HIGH PRESSURE SAFETY:**

 **Warning:** High Pressure Hazard

The pump is rated at a maximum of 175 psi at 150°F. Do not exceed this pressure. Install properly sized pressure relief valves in system. Failure to follow these instructions could result in serious personal injury, death or property damage.

**WIRING AND CONTROLS:**

Power supply connection to controls and motors must conform with national and local codes. Line voltage and wire capacity must agree with the ratings of the motor nameplate.

**IMPELLER ROTATION:**

Prime pump before starting the motor or damage can occur to close clearance rotating parts. Bleed all air from the pump casing and suction pipe by opening the pipe plug located on the discharge nozzle. If accessible, rotate shaft slowly to evacuate air trapped in the impeller passages.

Jog the motor to check that the motor shaft rotates clockwise, as indicated by the arrow on the pump casing. If rotation is counterclockwise, correct by changing two wire leads.

**OPERATION:**

Before starting the pump:

1. Check that the current supply agrees with the voltage and frequency on the motor nameplate.
2. Check that the motor is wired for correct voltage.
3. Check that thermal overload relays are correct size and set for operation.
4. Check that suction line valve is open and discharge line valve closed.

After starting the pump:

Check that the pump is operating smoothly and is not rubbing, which could be caused by pipe strain.

The pump is provided with a circulation relief valve that prevents overheating when the pump is operating at reduced capacity. The suction valve should be fully open and not be used for flow regulation. The discharge valve is used for flow regulation. Open the discharge valve slowly and check that pipe connections are sealed.

**TROUBLESHOOTING:**

If motor fails to start:

1. Wrong voltage, wiring hook up incorrect. Switches not set.
2. Rotating element may be bound due to clog in impeller pipe strain.
3. Tripped thermal overload relay or blown fuses.
4. Starter contacts may be shorted or corroded. Terminal connections may be broken at some point in the circuit.

**LOST PRIME:**

1. Suction pressure too low.
2. Leaks in suction piping connections.
3. High level of air entrainment.

**LOW OR NO WATER FLOW:**

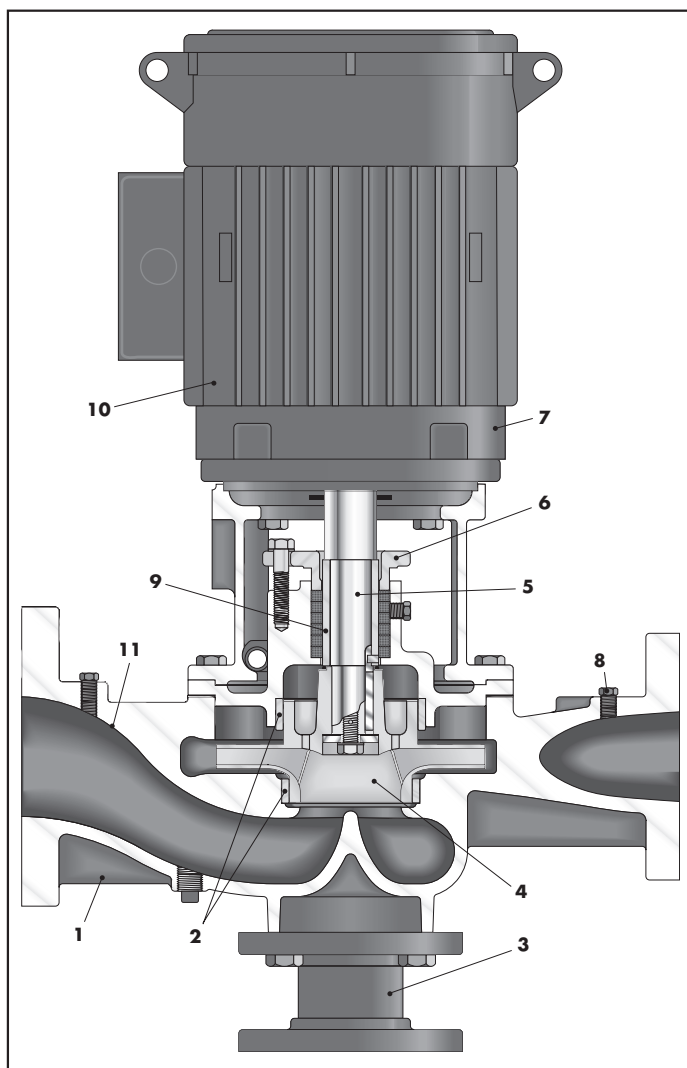
1. Speed may be low; check for low voltage.
2. The impeller may be clogged or damaged or suction and discharge lines partially clogged.
3. Valves may not be fully open.
4. Pump not primed.
5. Suction pressure may be low.
6. Required discharge pressure may be greater than originally anticipated.

**NOISE OR VIBRATION:**

1. Partially clogged impeller resulting in imbalance.
2. Cavitation, net positive suction head available is too low.
3. Pump fully primed.
4. Foundation improperly secured or not strong enough.
5. Piping not anchored securely.
6. Rotating element binding due to damaged shaft, worn bearings or pipe strain.

**Warning: California proposition 65 warning**

This product and related accessories contain chemicals known to the State of California to cause cancer, birth defects or other reproductive harm.



1. BACK PULL-OUT CASING with inline suction and discharge.
2. CASE WEAR RING prevents wear on casing and is easily and inexpensively replaced.
3. SUPPORT simplifies mounting. The pump can be fastened to the floor, a base or foundation.
4. DYNAMICALLY BALANCED IMPELLER is keyed to the shaft and secured by a capscrew and washer. Vacuum casting and quality controlled manufacturing process assure consistent high performance. Enclosed design provides high efficiency and low wear for long service life.
5. CARBON STEEL SHAFT is designed for minimum deflection at maximum load.
6. TWO PIECE BRONZE PACKING GLAND provides easy packing maintenance.
7. FACTORY PERFORMANCE TEST guarantees performance at specified pump operating conditions.
8. FLUSH LINE with valve (when used) from discharge provides easy water seal adjustment to lantern ring.
9. BRONZE SHAFT SLEEVE extends full length of stuffing box to protect motor shaft. The shaft sleeve is slip fit over the shaft and then is keylocked. Shaft sleeve and impeller screw are sealed by O-ring gaskets to eliminate corrosion of the shaft by the pumped liquid.
10. STANDARD MOTOR approved for 383 Series pump service by NEMA and the HYDRAULIC INSTITUTE provides low noise level pump operation.
11. VOLUTE TYPE SUCTION inlet pre-rotates suction liquid.

## WARRANTY

Seller warrants equipment (and its component parts) of its own manufacture against defects in materials and workmanship under normal use and service for one (1) year from the date of installation or start-up, or for eighteen (18) months after the date of shipment, whichever occurs first. Seller does not warrant accessories or components that are not manufactured by Seller; however, to the extent possible, Seller agrees to assign to Buyer its rights under the original manufacturer's warranty, without recourse to Seller. Buyer must give Seller notice in writing of any alleged defect covered by this warranty (together with all identifying details, including the serial number, the type of equipment, and the date of purchase) within thirty (30) days of the discovery of such defect during the warranty period. No claim made more than 30 days after the expiration of the warranty period shall be valid. Guarantees of performance and warranties are based on the use of original equipment manufactured (OEM) replacement parts. Seller assumes no responsibility or liability if alterations, non-authorized design modifications and/or non-OEM replacement parts are incorporated. If requested by Seller, any equipment (or its component parts) must be promptly returned to Seller prior to any attempted repair, or sent to an authorized service station designated by Seller, and Buyer shall prepay all shipping expenses. Seller shall not be liable for any loss or damage to goods in transit, nor will any warranty claim be valid unless the returned goods are received intact and undamaged as a result of shipment. Repaired or replaced material returned to customer will be shipped F.O.B., Seller's factory. Seller will not give Buyer credit for parts or equipment returned to Seller, and will not accept delivery of any such parts or equipment, unless Buyer has obtained Seller's approval in writing. The warranty extends to repaired or replaced parts of Seller's manufacture for ninety (90) days or for the remainder of the original warranty period applicable to the equipment or parts being repaired or replaced, whichever is greater. This warranty applies to the repaired or replaced part and is not extended to the product or any other component of the product being repaired. Repair parts of its own manufacture sold after the original warranty period are warranted for a period of one (1) year from shipment against defects in materials and workmanship under normal use and service. This warranty applies to the replacement part only and is not extended to the product or any other component of the product being repaired. Seller may substitute new equipment or improve part(s) of any equipment judged defective without further liability. All repairs or services performed by Seller, which are not covered by this warranty, will be charged in accordance with Seller's standard prices then in effect.

THIS WARRANTY IS THE SOLE WARRANTY OF SELLER AND SELLER HEREBY EXPRESSLY DISCLAIMS AND BUYER WAIVES ALL OTHER WARRANTIES EXPRESSED, IMPLIED IN LAW OR IMPLIED IN FACT, INCLUDING ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. Seller's sole obligation under this warranty shall be, at its option, to repair or replace any equipment (or its component parts) which has a defect covered by this warranty, or to refund the purchase price of such equipment or part. Under the terms of this warranty, Seller shall not be liable for (a) consequential, collateral, special or liquidated losses or damages; (b) equipment conditions caused by normal wear and tear, abnormal conditions of use, accident, neglect, or misuse of said equipment; (c) the expense of, and loss or damage caused by, repairs or alterations made by anyone other than the Seller; (d) damage caused by abrasive materials, chemicals, scale deposits, corrosion, lightning, improper voltage, mishandling, or other similar conditions; (e) any loss, damage, or expense relating to or resulting from installation, removal or reinstallation of equipment; (f) any labor costs or charges incurred in repairing or replacing defective equipment or parts, including the cost of reinstalling parts that are repaired or replaced by Seller; (g) any expense of shipment of equipment or repaired or replacement parts; or (h) any other loss, damage or expense of any nature.

The above warranty shall not apply to any equipment which may be separately covered by any alternate or special warranties.

**PERFORMANCE:** In the absence of Certified Pump Performance Tests, equipment performance is not warranted or guaranteed. Performance curves and other information submitted to Buyer are approximate and no warranty or guarantee shall be deemed to arise as a result of such submittal. All testing shall be done in accordance with Seller's standard policy under Hydraulic Institute procedures.

**LIABILITY LIMITATIONS:** Under no circumstances shall the Seller have any liability under the Order or otherwise for liquidated damages or for collateral, consequential or special damages or for loss of profits, or for actual losses or for loss of production or progress of construction, regardless of the cause of such damages or losses. In any event, Seller's aggregate total liability under the Order or otherwise shall not exceed the contract price.

**ACTS OF GOD:** Seller shall in no event be liable for delays in delivery of the equipment or other failures to perform caused by fires, acts of God, strikes, labor difficulties, acts of governmental or military authorities, delays in transportation or procuring materials, or causes of any kind beyond Seller's control.

**COMPLIANCE WITH LAW:** Seller agrees to comply with all United States laws and regulations applicable to the manufacturing of the subject equipment. Such compliance shall include: The Fair Labor Standards Acts of 1938, as amended; Equal Employment Opportunity clauses of Executive Order 11246, as amended; Occupational Safety and Health Act of 1970 and the standards promulgated thereunder, if applicable. Since compliance with the various Federal, State, and Local laws and regulations concerning occupational health and safety, pollution or local codes are affected by the use, installation and operation of the equipment and other matters over which Seller has no control, Seller assumes no responsibility for compliance with those laws and regulations, whether by way of indemnity, warranty, or otherwise. It is incumbent upon the Buyer to specify equipment which complies with local codes and ordinances.



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